

In the specification:

Please amend the specification section, beginning on p. 6, line 18, as follows:

Any given substrate may carry one, two, four ~~or more~~ or more arrays disposed on a front surface of the substrate. Depending upon the use, any or all of the arrays may be the same or different from one another and each may contain multiple spots or features. A typical array may contain more than ten, more than one hundred, more than one thousand more ten thousand features, or even more than one hundred thousand features, in an area of less than 20 cm² or even less than 10 cm². For example, features may have widths (that is, diameter, for a round spot) in the range from a 10 μm to 1.0 cm. In other embodiments each feature may have a width in the range of 1.0 μm to 1.0 mm, usually 5.0 μm to 500 μm, and more usually 10 μm to 200 μm. Non-round features may have area ranges equivalent to that of circular features with the foregoing width (diameter) ranges. At least some, or all, of the features are of different compositions (for example, when any repeats of each feature composition are excluded the remaining features may account for at least 5%, 10%, or 20% of the total number of features). Interfeature areas will typically (but not essentially) be present which do not carry any polynucleotide (or other biopolymer or chemical moiety of a type of which the features are composed). Such interfeature areas typically will be present where the arrays are formed by processes involving drop deposition of reagents but may not be present when, for example, light directed synthesis fabrication processes are used. It will be appreciated though, that the interfeature areas, when present, could be of various sizes and configurations.

Please amend the specification section beginning on p. 14, line 21, as follows:

A "processor" references any hardware and/or software combination that will perform the functions required of it. For example, any processor herein may be a programmable digital microprocessor such as is available in the form of a electronic controller, mainframe, server or personal computer (desktop or portable). Where the processor is programmable, suitable programming can be communicated from a

remote location to the processor, or previously saved in a computer program product (such as a portable or fixed computer readable storage medium, whether magnetic, optical or solid state device based). For example, a magnetic medium or optical disk may carry the programming, and can be read by a suitable reader communicating with each processor at its corresponding station.

Please amend the specification section, beginning on p. 21, line 12, as follows:

Methods of producing nucleic acid arrays using an in situ nucleic acid synthesis protocol are provided, where the in situ nucleic acid synthesis protocol includes a plurality of cycles, each of which includes: (I) a monomer attachment step; and (II) a 5' functional group generation step. A feature of the subject methods is that the 5' functional group generation step is performed by sequentially flowing a plurality of different fluids, e.g., oxidizing, deblocking and washing fluids, across the surface of a substrate, e.g., in a flow cell, in a manner such that the surface is not contacted with ~~with~~ a triple phase interface line while the liquid phase contains an active reagent. Also provided are the arrays produced using the subject methods, as well as methods for use of the arrays and kits that include the same.

Please amend the specification section, beginning on p. 44, line 18, as follows:

It is evident from the above results and discussion that an important new protocol for preparing nucleic acid (as well as other types of) ~~of~~ arrays is provided by the subject invention. Specifically, the subject methods provide for automated protocols of in situ synthesis of nucleic acid arrays with greatly reduced depurination side reactions resulting from the deblocking step, resulting in in situ production of arrays with highly uniform features. Accordingly, the subject invention represents a significant contribution to the art.